Planning for site rehabilitation at Voisey's Bay

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Early in project planning, Voisey's Bay Nickel Company implemented an Environmental, Health and Safety Management System (EMS), based on the principles of sustainable development, pollution prevention, and continuous improvement. EMS policies are implemented through site Environmental Protection Plans for specific activities and project phases. Plans have been developed for exploration drilling and for infrastructure development. These activities have been conducted in a manner designed to reduce the extent of surface disturbance, either with respect to vegetation removal or exposure of soils and overburden. Full life-cycle stewardship will be ensured by planning for closure from the earliest project phases. Nevertheless, as the project becomes developed into an operating mine/mill, and associated features (roads, docks, accommodation complex, power plant, tailings management areas), areas of land will be disturbed. Site restoration will be approached by progressive rehabilitation, i.e., as sites are disturbed, efforts to encourage revegetation will be implemented.

Organic soils are lacking in the region, and existing vegetative cover exhibits slow growth rates. Nonetheless, a variety of vegetative cover is present, including extensive forested areas. The importing of non-indigenous plant species is usually not compatible with the maintenance of ecosystem

integrity, hence a research program was initiated to examine the potential of native species in site restoration efforts. Test plots were established in four typical habitat types where previous activities had resulted in terrain disturbance. Plots were subjected to treatments which involved addition of fertilizer and humus. A selection of native species were planted in test and control cells, and growth rates measured throughout the vegetative season. Shoot growth and root growth were measured to determine whether the cuttings had become established, the extent of growth achieved over the test period, and the effect of added fertilizer and humus. Preliminary results indicate that deciduous species displayed the best growth characteristics. The effect of fertilizer addition produced mixed result; however, the test period may have been too short to demonstrate effects. Future sampling from the plots can address over-wintering success and longer term trends.